AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.   (currently amended): A time domain reflectometry method for determining properties of a transmission channel, comprising:

generating, at one end of the channel, a plurality of pulses covering different frequency bands through time domain reflectometry, and

processing, as received signals, the echoes provided by the plurality of pulses at said one end of the channel;

wherein the generating is performed so that the frequency bands of adjacent ones of the plurality of pulses overlap.

2.   (canceled).

3.   (previously presented): A method according to claim 1, wherein the overlapping of the frequency bands is such that, after reflection and said processing, the frequency spectrum of the plurality of pulses is practically flat.

4.   (previously presented): A method according to claim 1, further comprising:

providing each of the plurality of pulses with a given amplification or attenuation, and

providing pulses of the received signals with the corresponding attenuation or amplification.

5.   (previously presented): A method according to claim 1, further comprising subjecting the received signals to a synchronous averaging.

6.   (previously presented): A method according to claim 1, further comprising

subjecting the received signals to a matched filtering.

7.   (previously presented): A method according to claim 1, further comprising

suppressing noise, in medium and high frequency pulses of the received signals, by

estimating the noise for the part of the received signal after the channel end echo, and

determining a threshold above which the received signals are taken into consideration.

8.   (previously presented): A method according to claim 1, wherein the processing of

the received signals is performed so that the received signals are processed in their own

frequency bands, and then added.

9.   (previously presented): A method according to claim 8, further comprising

detecting the variation with time of one or more of:

the modulus of the received signals, and

the frequency of the received signals.

10.   (previously presented): A method according to claim 1, wherein the generating of

the plurality of pulses is performed so as to generate complex analytical pulses.

11.   (previously presented): A method according to claim 1, further comprising

selecting the frequency bandwidth and the amplitude of low frequency pulses of the received

signals according to the channel attenuation and its compliancy in terms of egress.

12.   (previously presented): A method according to claim 1, wherein the plurality of

pulses are generated sequentially or simultaneously.

13.   (previously presented): A method according to claim 1, wherein at least one of

said properties being determined comprises the locations of defects of the channel.

14.   (previously presented): A method according to claim 1, wherein

said transmission channel comprises a telephone line between a central office and a

subscriber, and

the processing of the received signals is performed at the central office.

15-17. (canceled).

18.   (currently amended): An apparatus for testing the properties of transmission

channels between a central office and a subscriber, comprising a time domain reflectometry test

circuit, wherein said time reflectometry test circuit comprises:

a pulse generator generating a plurality of pulses, at one end of the line, covering

different frequency bands through time domain reflectometry, and

an echo processor processing the echoes provided by these pulses at the same end of the

channel;

wherein the different frequency bands of adjacent ones of the pulses are overlapping.

19.   (previously presented): An apparatus according to claim 18, wherein the different

frequency bands are overlapping.

20.   (previously presented): An apparatus according to claim 19, wherein said echo

processor processes the reflected pulses such that the frequency spectrum is practically flat after

reflection and processing.

21.   (previously presented): An apparatus according to claim 18, wherein the pulse

generator includes amplification or attenuation for each generated pulse, and said apparatus

includes complementary attenuation or amplification for each received pulse.

22.   (previously presented): An apparatus according to claim 18, further comprising a synchronous averager for the received signals.

23.   (previously presented): An apparatus according to claim 18, further comprising a matched filter for the received signals.

24.   (previously presented): An apparatus according to claim 18, further comprising amplification or attenuation for each generated pulse and complementary attenuation or amplification for each received pulse.

25.   (previously presented): An apparatus according to claim 18, further comprising a processor processing the received signals for each frequency band and an adder adding the processed signals.

26.   (previously presented): An apparatus according to claim 25, further comprising a detector detecting the modulus of the received signals and/or the variation with time of the frequency of the received signals.

27.   (previously presented): An apparatus according to claim 18, further comprising a receiver receiving complex analytical pulses.

28.   (previously presented): An apparatus according to claim 18, further comprising a selector selecting the frequency bandwidth and the amplitude of the low frequency pulses according to the line attenuation and its compliancy in terms of egress.

29.   (previously presented): An apparatus according to claim 18 wherein said pulse generator generates the pulses sequentially or simultaneously.

30.   (canceled).

31.   (previously presented): An apparatus according to claim 18, wherein said

transmission channels are telephone lines comprising copper pairs between a central office and a

subscriber.